



CONSUMER PRODUCT SAFETY COMMISSION

[Docket No. CPSC-2023-0025]

Lithium-Ion Battery Safety; Notice of Meeting and Request for Comments

AGENCY: Consumer Product Safety Commission.

ACTION: Announcement of public meeting and request for comments.

SUMMARY: The Consumer Product Safety Commission will be holding a meeting on lithium-ion battery safety, with a specific focus on fires occurring in e-bikes and other micro-mobility products as well as the fire risks that may arise with the growing consumer market for other products containing such batteries. We invite interested parties to participate in or attend the meeting. A remote viewing option will be available for registrants. We also invite interested parties to submit written comments related to the issues discussed in this notice.

DATES: The hybrid meeting will be held in person at CPSC's headquarters and remotely via webinar at 10 a.m. Eastern time on July 27, 2023, and will conclude that same day.

ADDRESSES: For those attending in person, the meeting will be held at the Commission's Hearing Room, 4th floor of the Bethesda Towers Building, 4330 East West Highway, Bethesda, MD 20814. All virtual attendees should pre-register for the webinar online at:

<https://cpsc.webex.com/weblink/register/rafcc9fee7d4a7f3d2c8149be4d9436e2>. After registering, you will receive a confirmation email containing information about joining the webinar. In person attendees do not need to register for the hearing. Any individual interested in serving on a panel or making an oral presentation, virtually or in person, must register for the webinar and submit a request to make an oral presentation to the Office of the Secretary, along with an abstract of their expertise and the topic they propose to address, and such requests must be received no later than 5 p.m. Eastern on June 29, 2023. Interested persons should submit such requests by sending an email with their contact information as well as the abstract of their expertise and proposed topic to: cpsc-os@cpsc.gov, using the caption "Lithium-Ion Battery

Safety,” or by mail or delivery to the Office of the Secretary, Consumer Product Safety Commission, 4330 East West Highway, Bethesda, MD 20814, and all such requests must be received no later than 5 p.m. Eastern time on June 29, 2023. The Commission will accept written comments, as well, through August 21, 2023. You may submit written comments, identified by Docket No. CPSC-2023-0025, no later than August 21, 2023, by any of the following methods:

Electronic Submissions: Submit electronic comments to the Federal eRulemaking Portal at: www.regulations.gov. Follow the instructions for submitting comments. Do not submit through this website: confidential business information, trade secret information, or other sensitive or protected information that you do not want to be available to the public. CPSC does not accept comments submitted by email, except as described below.

Mail/Hand Delivery/Courier/Confidential Written Submissions: CPSC encourages you to submit comments by using the Federal eRulemaking Portal. You may, however, submit comments by mail, hand delivery, or courier to: Office of the Secretary, Consumer Product Safety Commission, 4330 East West Highway, Bethesda, MD 20814; telephone: (301) 504-7479.

Instructions: All submissions must include the agency name and docket number. CPSC may post all comments without change, including any personal identifiers, contact information, or other personal information provided, to: www.regulations.gov. If you wish to submit confidential business information, trade secret information, or other sensitive or protected information that you do not want to be available to the public, you may submit such comments by mail, hand delivery, or courier, or you may email them to: cpsc-os@cpsc.gov.

Docket: For access to the docket to read background documents or comments received, go to: www.regulations.gov, and insert the docket number, CPSC-2023-0025, into the “Search” box, and follow the prompts.

FOR FURTHER INFORMATION CONTACT: For information about this meeting, contact Alberta E. Mills, Office of the Secretary, Consumer Product Safety Commission, 4330 East-West Highway, Bethesda, MD 20814, telephone: (301) 504-7479.

SUPPLEMENTARY INFORMATION:

I. Background

Lithium-ion batteries are used in a wide range of consumer products, including cell phones, laptops, power tools, and micromobility products such as hoverboards and e-bikes. In recent years, there has been a rise in the number of fires and other thermal events involving micromobility products—including e-scooters, self-balancing scooters (often referred to as hoverboards), e-bicycles, and e-unicycles.

From January 1, 2021, through November 28, 2022, CPSC received reports of at least 208 fire or overheating incidents involving micromobility devices, in 39 states. These incidents resulted in at least 19 fatalities, including 5 deaths associated with e-scooters, 11 with hoverboards, and 3 with e-bikes. CPSC also received reports of at least 22 injuries that resulted in emergency department visits, with 12 of the injuries involving e-scooters and 10 of them involving e-bikes.

In December 2022, CPSC staff wrote to a broad swath of the micromobility industry, urging the recipients to ensure that the micromobility devices for consumer use that they manufacture, import, distribute, or sell in the United States have been designed, manufactured, and certified for compliance with the applicable consensus U.S. safety standards. In the letter, staff noted that “[m]anufacturing these products in compliance with the applicable UL standards significantly reduces the risk of injuries and deaths from micromobility device fires,” and made clear that “[c]onsumers face an unreasonable risk of fire and risk serious injury or death if their micromobility devices do not meet the level of safety provided by the relevant UL standards.”

This letter was part of a long-standing effort at the Commission to reduce the risk of thermal events and fires involving lithium-ion batteries in consumer products. For more than a

decade, staff have been involved in incident investigations, product recalls, and voluntary standards activities to limit fire risk from cell phones, laptops, hoverboards, and a range of similar products. Most recently, in September 2020 Commission staff hosted a webinar forum on the safety of consumer micromobility products, in which stakeholders were brought together for a broadly-focused meeting to exchange information on enhancing the safety of three specific micromobility products: e-scooters, e-bikes, and hoverboards.

The Commission is holding this meeting to gather additional information from experts in battery safety, fire prevention, and other aspects of consumer product safety to further Commissioners' understanding of best practices for preventing lithium-ion battery fires in e-bikes and other micromobility products, as well as additional perspectives on how to prevent such fires in other products as lithium-ion batteries become more prevalent in the marketplace. As lithium-ion batteries are powering more and larger consumer products, the Commissioners are interested in learning about potential standards and designs for batteries, battery management systems, and consumer products that might limit the risk of thermal runaway and fire.

II. Topics for the Meeting

We have identified the following specific topics we would like panelists to address at the meeting:

1. Science of lithium-ion batteries and the relative fire risks posed by the batteries.
 - a. Which consumer products pose the highest likelihood of thermal runaway fire involving lithium-ion batteries?
 - b. How much do the size or capacity of the battery matter for the severity of fire, risk of injury or death, or extent of damage?
 - c. Are there other patterns across consumer products that predict whether a lithium-ion battery system is more or less prone to a serious fire?
2. Micromobility device fires – addressing the problem that is before us today.

- a. With respect to e-bike fires, where in the products is the problem centered? Is the fault primarily with the design or manufacture of the bikes, or with the batteries specifically? How does the use of mismatched batteries or chargers factor in?
 - b. What are best practices for battery replacement as batteries or chargers reach their end of life in these products? What are best-practice product design considerations to enable safe replacements?
 - c. There are several voluntary standards for batteries and the systems that contain them. How successful are they in preventing fires? How successful are they at preventing the types of consumer modifications that could lead to fires?
 - d. Are there current third-party battery testing and certification programs in place? If so, are they sufficient?
3. Looking forward to emerging products.
- a. Lithium-ion batteries are increasingly used to power home tools and equipment, such as lawnmowers, in addition to the laptops and cell phones they have been powering for years. Is it possible to stay ahead of the fire problem and address associated hazards through product design?
 - b. As the number of lithium-ion battery powered products has increased, we have seen the emergence of lithium-ion batteries that are not original equipment manufacturer (OEM) batteries. What can be done to ensure that these batteries are safe?
 - c. Large, higher capacity battery packs are being used in homes as backup/emergency power sources coupled with DC to AC inverters. These often use solar panels to keep them charged. Are there fire incidents or risks associated with use of these systems in homes?

CPSC will determine the presenters and order of the presentations once we confirm the number of panelists available for each topic area. We may combine, expand, or eliminate panel

sessions, depending upon the level of interest. The final schedule will be announced on the Commission's website (cpsc.gov) before the meeting.

III. Details Regarding the Public Meeting

A. When and where will the meeting be held?

The hybrid meeting will be held at 10:00 a.m. on July 27, 2023, and conclude that same day. It will be held at the Commission's Bethesda Towers Hearing Room, 4th Floor, 4330 East-West Highway, Bethesda, MD 20814.

B. How can I register for the meeting?

If you would like to be a panelist or present information for a specific session of the meeting, you should register by June 29, 2023. (See the **ADDRESSES** section of this document for instructions on how to register.) We also ask that you submit a brief (less than 200 word) abstract of your topic and area of expertise. Staff will select panelists based on a variety of considerations, including: Whether the information to be presented has been received in previous open comment periods; the individual's familiarity or expertise with the topic to be discussed; the practical utility in the information to be presented; and the topic's relevance to the identified theme and topic area. Although an effort will be made to accommodate all persons who wish to be panelists, we expect to limit each panel session to no more than approximately five panelists. Therefore, the final number of panelists may be limited. We recommend that individuals and organizations with common interests consolidate or coordinate their panelist requests. To assist in making final panelist selections, staff may ask potential panelists to submit planned presentations in addition to the initial abstract. We plan to notify panelists of their selection by July 6, 2023.

If you wish to submit written comments for the record, you may do so before or after the meeting, as described in the **ADDRESSES** section of this notice. These written comments should be received by no later than August 21, 2023. Comments should focus on new information not submitted previously that is related to the topic areas listed above.

C. What will be the format of the meeting?

The meeting will begin with introductory statements from the CPSC Chair and Commissioners. Presentations covering topics listed above will follow. We expect potential presenters to speak for approximately 5-10 minutes each about their topic area. At the conclusion of the presentations, there will be a question, answer, and discussion session among the presenters and the Commission, limited to the topics discussed by the panelists. There may be more than one panel, depending on the level of interest and the number of speakers.

D. How can I receive updates about the meeting?

If we decide to cancel or change the meeting, an email will be sent to each registered participant who provides a valid email address when registering as described in the **ADDRESSES** section of this document. Updates will also be posted on the Commission's website (cps.gov).

Alberta E. Mills,
Secretary,
Consumer Product Safety Commission.

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